

REMARKS/ ARGUMENTS

Favorable reconsideration of this application is requested in view of the amendments above and the remarks/arguments which follow:

Specification

In the specification, the paragraph on page 3, line 24 to page 4, line 3 has been amended to correct a minor typographical error.

Drawings

In amended Figure 1, the previously omitted reference numeral 2 has been added.

Disposition of the Claims

Claims 1, 2, 4-9, 13, 15-23 remain in this application. Claims 3, 10-12, and 14 have been canceled. Claims 16-19 have been withdrawn. Claims 20-23 are newly added.

Election/Restrictions

In a telephone conversation with Mr. Timothy Schaeberle on September 10, 2003, the Examiner required restriction for examination purposes to one of the following inventions:

- I: Claims 1-15, drawn to a method of making glass, classified in class 65, subclass 413.
- II: Claims 16-19, drawn to a mask blank, classified in class 430, subclass 5.

On September 10, 2003, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-15. Applicants affirm this election. In view of the restriction requirement, Applicants retain the right to present the claims in Group II in a divisional application.

Rejections Under 35 U.S.C. §103

Claims 1-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Blackwell et al. (U.S. Patent No. 5,152,819) in view of Flamenbaum et al. (U.S. Patent No.

3,806,570). Claim 3 has been canceled, and claim 1 has been amended to substantially include the subject matter previously recited in claim 3. Claims 10-12 and 14 have been canceled for being substantial duplicate of claims 5-7 and cancelled claim 3. Accordingly, rejection of claims 3, 10-12, and 14 is moot. Reconsideration of the rejection of claims 1, 2, 4-9, 13, and 15 is respectfully requested.

Amended claim 1 recites a method for producing a fused silica glass containing titania which comprises synthesizing particles of silica and titania by delivering a mixture of a silica precursor and a titania precursor to a burner. The method further includes growing a porous preform by successively depositing the particles on a deposition surface at a temperature below a minimum temperature at which the particles can consolidate either partially or fully into dense glass while rotating and translating the deposition surface relative to the burner, and subsequently consolidating the porous preform into dense glass.

Neither Blackwell et al. nor Flamenbaum et al. teach growing a porous preform by successively depositing particles of silica and titania at a temperature below a minimum temperature at which the particles can consolidate into dense glass, as recited in amended claim 1. Depositing the particles at temperatures at or above a minimum temperature at which the particles can consolidate either partially or fully into dense glass could result in compositional variations within the glass, which would result in the glass having non-uniform thermal expansion properties. The present invention avoids or substantially reduces compositional variations within the glass by capturing the particles at a temperature below the minimum temperature required for partially or fully consolidating the particles into dense glass.

In view of the above, claim 1, as amended, is not obvious over Blackwell et al., whether considered singly or in combination with Flamenbaum et al. Withdrawal of the rejection of claim 1 is respectfully requested. Claims 2, 4-9, 13 and 15, being dependent on claim 1, are likewise patentable in view of the foregoing arguments.

New Claims

New claims 20 and 21 further limit the temperature at which the particles are deposited. Claim 22 further defines the deposition surface on which the porous preform is grown. Claim 23 limits the variation in the coefficient of thermal expansion of the dense glass.

Conclusion

The rejected claims have been amended, canceled, and/or shown to be allowable over the prior art. Applicants believe that this paper is fully responsive to each and every ground of rejection cited by the Examiner in the Office Action dated September 15, 2003, and respectfully request that a timely Notice of Allowance be issued in this case.

Please apply any charges not covered or any credits to Deposit Account 03-3325 (Reference SP01-095).

Respectfully submitted,

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